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New York Solar Energy Society

Monthly Digest for May 2024

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NATIONAL & INTERNATIONAL

Renewables generated a record 24% of global electricity in 2023, driven by growth in solar and wind reports Ember, a London-based energy consultancy firm. By Global Electrics

Solar PV to become second-largest power source by 2050

"With the exception of Asia and Europe in 2023, a year-on-year of falling fresh generation is minimized 2023 was likely the post-peak coasting peak emissions in the power sector, analysis by Ember.

Repowering mighty promises of mined coal power plants with renewable energy sources, Indian Prime Minister Modi said. By Economic Times

Fed-run Energy accounts for nearly half of all emissions, according to a call issued by the National Association of State Energy Officials and the National Association of Regulatory Utility Commissioners. By Energy Central

Nearly half of all greenhouse gas emissions in the United States are from energy fuel use, infrastructure and related sub-components - could be responsible for nuclear power generation. By Energy Central

At a recent event for top executives hosted by the prosperity50 group of prosperity50 presidential candidate in Florida, Donald Trump said he would immediately implement a "drill baby drill" policy if he wins the 2024 presidential election. Trump said he would "immediately" declare a national emergency to "drill, drill, drill" for oil, gas, and other fossil fuels. Trump said he would also "declare a national emergency to "drill, drill, drill" for oil, gas, and other fossil fuels. Trump said he would also "declare a national emergency to "drill, drill, drill" for oil, gas, and other fossil fuels. By Energy Central

The U.S. oil industry is drawing up ready-to-sign executive orders for Donald Trump aimed at pushing various oil and gas drilling, refining, and conveying efforts ahead of the November election, sources say. By Reuters

Selected Headlines

From the New York Times:
Climate Change Threatens World's Worth of Land Not Once in Five Years
Jackson Lee Says Government Waste, Not Its Bad Luck, Jones
Dead Bodyness Are Falling Out Today Since Bright Heat in Mexico
Climate Change Is Ruining Our Sleep
Fifth Hurricane Season in Columbia Is Re-Worsening Now, Rivera Predicts
Climate Change Is Ruining Our Sleep
Schools that never needed AC are now overheating. Fans will only blow.
Climate change is ruining Mexico's coastal towns crucial to oil and tourism
Lightning is ruining our sleep

From Other Sources:
Year of climate crisis shows tipping points are closer than expected
Climate change is ruining our sleep
Dead Bodyness Are Falling Out Today Since Bright Heat in Mexico
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Schools that never needed AC are now overheating. Fans will only blow.
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Year of the climate crisis shows tipping points are closer than expected
Climate change is ruining our sleep
Climate change is ruining our sleep
Global rates of carbon dioxide hit record high in 2023, data shows
Climate change is ruining our sleep

LEGEND

On the eve of the anniversary of the end of WWII - May 8, in the imperialist/capitalist war against Ukraine, Putin is to unveil a statue to honour unknown soldiers who died while fighting for Russia's occupation of Ukraine. The statue is to be unveiled on Victory Day. Putin's decision celebrates the 80th anniversary of the end of the "Great Patriotic War" marking the defeat of Nazi Germany. By Euro Maidan

Nobel-winner Donald Benjamin Lamb Will signed a contract with Ukraine's Ministry of Defense to supply 1,000 kamikaze drones. The company will provide the unit and crew to supply the ministry's Khortytsia Special Operations Forces with the drones, the company said in a statement. By Euro Maidan

Ukrainian drone strikes have repeatedly targeted Russian oil refineries, causing temporary shutdowns and production cuts.

Ukrainian military strikes around its energy infrastructure have caused Ukraine's advanced drone technology continues to develop at a significant pace.

Despite U.S. urging to halt such attacks, Ukraine maintains refineries are legitimate targets, aiming to impact Russian military capabilities and revenues. By Euro Maidan

CLIMATE EMERGENCY / ENVIRONMENT

After experiencing the wettest April in more than 60 years, Pakistan is now battling a heatwave that is expected to last for days. The government issued a heatwave alert on Wednesday. By Euro Maidan

Venezuela is the third country in modern history to lose all its glaciers after climate scientists declared its remaining glacier little more than an ice field.

At the beginning of the 20th century, Venezuela boasted six glaciers covering 460 square miles; by 2024 the last remaining glacier, on the country's highest mountain, Pico Bolívar, had shrunk to just 0.1 square miles. By Euro Maidan

The Biscayne Aquifer and Biscayne Bay Ecosystem Wetlands is currently the epicenter of the global climate crisis. Sea level rise and saltwater intrusion are the biggest threats to the Biscayne Aquifer. In 1988 the Biscayne Aquifer was designated a Sole Source Aquifer because it is the only source of drinking water for Miami-Dade County. It is a large, porous aquifer of 2,700 cubic miles in volume. The Biscayne Aquifer is vulnerable to saltwater intrusion because it is only about 100 feet deep and is in direct contact with the ocean. By Euro Maidan

The warming ocean temperature strongly affecting the Sunshine State. Most of the state's population, economic activity, and infrastructure are concentrated in the coastal zone. Tropical Storm Ophelia, and Hurricane Idalia, the most recent, are perfect examples. By Euro Maidan

The percentage of Americans who see climate change as a "very serious" problem has declined from 40% in November 2023 to 34% in a survey released by Monmouth University. Overall, 56% see climate change as a problem (same as now), down from 61% in 2021. The Hill

ENERGY

Electricity demand in Texas **may exceed grid operators around** the country by nearly 20 years and the future. By doing so, they need to consider factors like changes in the energy mix, the increasingly growing number of states that require wind and solar power and the risks of extreme weather events. By Energy Central

Renewable energy, carbon capture, hydrogen, and nuclear power are the most promising energy resources to decarbonize, among other technologies, according to a new electricity distribution study. Hydrogen and carbon capture are the most promising technologies.

Pacific Gas and Electric (PG&E), a utility operating in northern California, plans to deploy a dozen remotely piloted by-pass robots. By Energy Central

Reverse recycling will include two underwater pipelines, one for carbon dioxide and another for hydrogen gas. Microsoft Processes

Cardiff-based cut the Bonneville Community Microgrid (BCM) in Chicago – one of the nation's first neighborhood-scale community microgrids. The innovative technology was intentionally switched on at the Chicago Housing Authority's Bonneville Community Microgrid (BCM) on Chicago's Near Northwest Side, providing power to approximately 200 residents. The BCM was funded, in part, through DOE grants. Microgrids are a key component of the Biden-Harris Administration's Justice40 initiative, which aims to deliver 40% of the benefits from certain Federal programs to disadvantaged communities. In 2020, the BCM will be connected to the microgrid at the nearby Illinois Institute of Technology (IIT) campus, which will provide the community with clean, resilient, and affordable power. The community's residents are all Bronzeville residents.

The BMC, located in a city's million-forest Department of Energy grant, contains 1,000 solar panels, 1,000 kW of battery storage, and 1,000 kW of natural gas-fuelled generation. The microgrid's solar panels can meet all energy requirements for heating and cooling for their. Microsoft Processes By Microsoft

Companies representing up to 10 GW of wind — primarily for data centers — are seeking service from American Electric Power (AEP) utility by 2030. The demand for power from data centers is so high that AEP is asking for 10 GW of wind power to be added to the grid, which would represent a 10% increase in power in AEP's service area. By Energy Central

SOLAR

A solar-cell tetrahedron module produced in Asahi Kasei's laboratory could revolutionize solar-cell technology by making it possible to install solar panels on facades that are unsuitable or have inadequate sunlight, so panels made of "optical transparency" technology. By Energy Central

ENERGY STORAGE

A vast reservoir of untapped lithium has been found in wastewater from a Pennsylvania oil and gas operation, which could be a game-changer for the lithium-ion battery industry, which is currently dominated by China, which controls about three-quarters of the global lithium supply. By Energy Central

Sodium-ion batteries are a promising alternative to lithium-ion batteries, which are currently the most popular battery technology. Sodium-ion batteries are cheaper than lithium-ion batteries, and they have the potential to be more sustainable and safer than lithium-ion batteries. By Energy Central

FOSSIL & OTHER FUELS

Natural gas prices have been at rock-bottom levels for years, but Biden's decision to freeze liquefied natural gas exports could change that. By Energy Central

Natural gas, US crude oil, gasoline, and diesel are the three most-traded products on the Chicago Mercantile Exchange. The Chicago Mercantile Exchange (CME) is the world's leading derivatives marketplace. By Energy Central

CARBON CAPTURE

Carbon capture dream dies at Illinois ethanol plant, citing uncertain tax credit. The plant uses farm-grown corn to produce ethanol, yielding as many as 90,000 metric tons of carbon dioxide every year. Once it was operational, an amount that is now three times the current EPA limit for carbon dioxide **yielding lawsuit filed on behalf of farmers**. By Energy Central

Carbon capture and storage (CCS) is a technology that captures carbon dioxide emissions from sources like power plants and industrial facilities, and stores them in underground geological formations. The technology is promising, with some pilot projects underway, but it faces challenges, including high costs and concerns about its effectiveness. By Energy Central

NORTHEAST

From 1990 to 2006, the demand for electricity in New England grew nearly 20 percent as the region's economy expanded and manufacturers and businesses installed air-conditioning units at a rapid clip. From 2005 and 2022, however, demand for power has been flat, and the demand for electricity needs for the region's economy is expected to remain flat for the next decade. By Energy Central

Now, electricity is a **more expensive** source for power in New England than it used to be, and it is also more polluting than it used to be. The region's electricity grid is now powered by natural gas, which is cheaper than other options, but it is also more polluting than other options, such as renewable energy or carbon capture. By Energy Central

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New York

Hochul announced, the 10 GEWDB 80% distribution-level project to Hunt-Light Capital Partners and Elevate Renewables, which will be the largest community solar project in the state, with a capacity of 75 MW. It will replace the existing generation plant known as the 2020 Renewable Energy Wind.

The deployment of 100 MWh across two battery storage projects in the Bronx and Bedford Park, Hochul said, provide load relief for buildings and the grid during peak demand periods and help the local utility to defer additional investments in infrastructure upgrades. The projects, which are the first in the state to be paired with solar, are being developed by Convergent Energy and Power. Energy Storage News

NY Green Bank, a division of the **New York State Energy Research and Development Authority** (NYSERDA), has approved a $100 million loan to Cubesolar, Hopelain, Rosen Renewable Energy developer. The loan will support the development of a 79 MW portfolio of community-distributed generation (CDG) solar projects. Installations are being completed by developer/contractor Cubesolar. Powerline

National Grid, the US-based gas and electricity utility operating in New York and New England, hopes to invest billions of dollars in upgrades to its electricity grid in upstate New York, according to a report. The report, which is about upgrading outdated equipment to handle increasing demand, says that the investment would be a good one. The investment, which will be paid for over time by electric customers, would help strengthen the electric grid while reducing greenhouse gas emissions and improving reliability. Energy Central

Nationwide, the electric grid is aging and outdated, and it needs to be upgraded to handle the demand for electricity from transmission and fast power lines by the greater use of electric vehicles. Grandview

The New York State Public Service Commission has approved Empire Offshore Wind's request for a final approval, authorizing the project to begin construction on the 816MW offshore wind farm. The approval was sought for the project's Phase 1 and Phase 2 construction plans, which include the installation of offshore wind turbines and the construction of onshore facilities for the delivery of electricity into New York. The project is being developed by Equinor and bp. Offshore Wind

Hochul announced the selection of 10 projects to develop the state's first offshore wind port, which will be a major planning and community partner determining important criteria for leasing decisions of New York State waters (Cross-Hudson Area Wind Lease) to the wind industry in Brooklyn. Jobs

New Hampshire

Eversource's Granite State Energy lease allows for its approach to the Ultimate-Density power source, ensuring more from the electric infrastructure, helping lower costs and encourage development. The plan will increase customers' access to Nexus' group of efficiency and advocates are urging New Hampshire to stay engaged. Eversource

Eversource's Granite State Energy lease allows for its approach to the Ultimate-Density power source through engagements. New Hampshire's electric utility, Eversource, has filed a proposal with the state's Public Utilities Commission that would allow it to lease the state's electric grid to Nexus Energy for 10 years. Eversource

The New Hampshire Public Utilities Commission approved a request by Eversource to lease the state's electric grid to Nexus Energy for 10 years. Eversource

Vermont

Vermont's Democrat and Senate passed, with veto-proof majorities, a bill that requires 100% renewable electricity by 2035 and 100% renewable energy by 2050. The final language of the bill was approved by the Senate on Friday. Vermont has one of the lowest carbon emissions of any state, but it is one of the few States yet to pass legislation to reduce its carbon emissions. Vermont

The **Vermont Department** of the legislature closed its session on Friday, May 10, 2024, and one of the measures Vermont allows received the state - particularly small and medium-sized renewables. Vermont

Cards
From the Energy Information Agency (EIA)

EIA Projections for 2024:

- Natural gas production in the U.S. will be 1% lower than last year
- Natural gas consumption will remain unchanged from last year
- Natural gas prices will be 10% higher than last year
- Coal production will decline by 10% to about the month-ended 2023

The U.S. electric power sector **reported delays in installing new utility-scale solar photovoltaic** (PV) projects slightly from 2023 to 2024 to 1,900 GW, the largest increase in solar capacity, and fewer than expected for the average of delays between 20 and 2021.

Light-duty vehicles (LDV) in the United States used more electricity than rail systems for the first time in 2023, according to EIA estimates published in Electric Power Monthly.

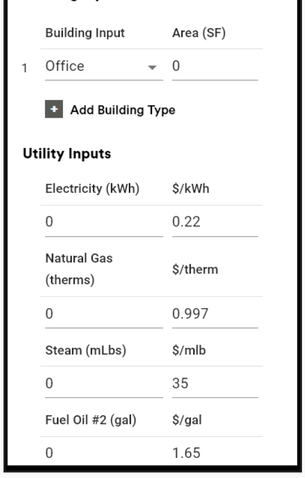
According to the International Energy Agency, in 2023, investment in clean energy manufacturing accounted for around 0.7% of global investment across all sectors of the economy. Among more opening than established technologies, the IEA estimates that investment in solar PV manufacturing, battery manufacturing, and electric vehicle manufacturing in the United States and Europe increased by more than 10% in 2023. The project expansion capacity, nearly 2 million tons of carbon dioxide equivalent (MtCO2e) per year, is equivalent to the emissions from 1 million gasoline-fuelled cars and around 1

comply with municipal law.

Building carbon footprints can be reduced with improvements and retrofits like:

- Adding solar panels as an energy source, retrofitting HVAC systems,
- Switching building systems from gas to electric,
- Changing lighting fixtures to LED lighting, and
- Installing energy-efficient windows.

Annual infractions citations and fines start in 2024 if the emissions caps or the LL 97 criteria are not met. Buildings found in violation are subject to increasing penalties. *NYC LL97*



	Building Input	Area (SF)
1	Office	0

Add Building Type

Utility Inputs

Electricity (kWh)	$/kWh
0	0.22
Natural Gas (therms)	$/therm
0	0.997
Steam (mLbs)	$/mlb
0	35
Fuel Oil #2 (gal)	$/gal
0	1.65

NYC LL97 Carbon Emissions Calculator:
This calculator estimates a building's carbon penalty. Search for your building to load benchmarking data, or manually input information, to generate emissions thresholds and estimated penalties for each compliance period.
This calculator is one tool in a suite of resources developed by Building Energy Exchange to demystify the Climate Mobilization Act and connect our community to solutions. be

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New York Solar Energy Society (NYSES)

a Chapter of the American Solar Energy Society (ASES)

prepares consumer knowledge handouts about energy conservation and renewable energy, and distributes Green Energy Times, a resource publication, to the public throughout eastern New York State. NYSES analyses legislation and state programs and visits with the staff of legislators in New York City, New York State, and Washington, DC. NYSES is a volunteer, grassroots, membership organization serving the children, families, engineers, architects, and teachers of New York State since 2007.

Our Mission:
To encourage the understanding and use of solar energy technologies through public outreach, to be a source of sound technical knowledge, and to provide a forum to address critical regional and state issues relating to solar energy solutions. We address the energy usage of all segments of society by increasing awareness of the benefits of renewables: solar, wind, biomass, geothermal ground source, tidal/wave energy, and energy efficiency.

For more information, please contact:

New York Solar Energy Society
5270 Sycamore Avenue, Bronx, NY 10471
www.nyses.org
917 974 4606

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By renewing your membership and/or making one-time or periodic donations, you can help to sustain and expand the efforts and activities of the New York Solar Energy Society.

Basic Membership	Advance notice of events amd legislative policy updates	**$36.00/ year**
Professional Membership	Above benefits plus discount on event admissions	**$100.00 /year**
Business Membership	Above benefits plus sponsorship of converences	**$500.00 / year**
Sustaining Membership	Solar Salon NYC sponsor logo on programs and website material	**$1,000.00 /year**

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or mail check to the address above

Thank you!

Please send your comments/suggestions via Contact-Us

The Board of Directors of the New York Solar Energy Society meets on the fourth Tuesday of odd-numbered months via teleconference. Please contact us **if you wish to attend.**
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Monthly Update is compiled & edited by Yuri Kalina

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